

Attorney Docket No. P12409-US1
Customer Number 27045

REMARKS/ARGUMENTS

1.) Claim Amendments

The Applicants have amended claims 1-18; claim 19 was previously canceled; and claim 20 has been added. Accordingly, claims 1-18 and 20 are pending in the application. Favorable reconsideration of the application is respectfully requested in view of the foregoing amendments and the following remarks.

2.) Examiner Objections - Claims

In paragraph 1 of the Office Action, the Examiner objected to claim 1 due to the misspelling of the word "node" as "note". The Applicants have corrected this informality. Therefore, the withdrawal of the objection is respectfully requested.

3.) Claim Rejections – 35 U.S.C. § 112

In paragraphs 2-3 of the Office Action, the Examiner rejected claim 14 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Examiner stated there was insufficient antecedent basis for "the edge node" in claim 14 because it was unclear whether the phrase referred to the edge node of claim 11 or 13. The Applicants have corrected this problem as recommended by the Examiner by amending claim 13 to recite "*the* edge node". Therefore, the withdrawal of the rejection is respectfully requested.

4.) Claim Rejections – 35 U.S.C. § 102(e)

In paragraphs 5-6 of the Office Action, the Examiner rejected claims 1-3, 5-6, 8, 11-12, and 18 under 35 U.S.C. § 102(e) as being anticipated by McCloghrie, et al. (US 6,286,052). The Applicants have amended the claims to better distinguish the claimed invention from McCloghrie. The Examiner's consideration of the amended claims is respectfully requested.

The present invention provides a method for improved handling of data packets within a packet switched communications network, i.e. between the edges, and to

Amendment - PAGE 7 of 11
EUS/J/P/04-8903

Attorney Docket No. P12409-US1
Customer Number 27045

differentiate the priority of individual users. This is done by setting a data field specifying the packet handling according to an identified user record in a data base and the according handling of the packets in the intermediate nodes. In a particular embodiment, the network is an IP network, and the edge node retrieves quality of service (QoS) parameters for an identified user from a database and modifies a Differential Services (DS) data field in the IP header of the packets. This may be done, for example, by using the unspecified bits in the DS field. In a further embodiment, the intermediate nodes evaluate the DS field and change the packet handling only if the traffic load exceeds a predefined threshold level.

The advantage of the claimed invention is that any node within the network can perform a user-specific differentiated handling of data packets according to local conditions. McCloghrie and the other cited references can only consider information present at the network edges. Only the inventive combination of features recited in independent claims 1, 11, 16, and 18 enables the provision of packet-handling information to intermediate nodes in the communication system. This ensures a user-specific packet handling by the intermediate nodes within the network, which is not taught or suggested by the cited references.

McCloghrie describes the use of the DS field in the Internet and traffic classification at edge nodes. (See FIG. 1B, #132). The Examiner points to column 16, lines 6-10 for showing the claimed function of providing a packet with quality parameters from a user record in a data base, and setting the data field specifying the handling of the packet according to the record. However, McCloghrie seems to address only populating the specified per-hop bits of the DS field by the policy server and the local policy enforcer. (See col. 28, lines 30-32). McCloghrie describes a complex process between application programs, flow control components, the local policy enforcer, and the policy server in order to get policy instructions back to the application level. (See FIGS. 4A-D). However, there is no teaching or suggestion in McCloghrie of either using the unspecified bits in the DS field to specify quality parameters, or specifying specific quality parameters for an identified user.

Amended claim 1 recites a method of providing a defined quality of service in a packet switched communication system having a plurality of interconnected nodes for

Attorney Docket No. P12409-US1
Customer Number 27045

forwarding of data packets. An edge node connects to user equipment or to a further communication system and processes data packets having a data field specifying a handling of the packets. The plurality of interconnected nodes perform a differentiated handling of the packets according to the data field. The method includes the steps of connecting the edge node to a data base that contains a record for an identified user specifying a quality of service for the identified user; providing the edge node with quality parameters from the identified user's record; and processing in the edge node, a data packet for the identified user by setting the data field specifying the handling of the packet according to the quality parameters from the identified user's record.

As noted above, there is no teaching or suggestion in McCloghrie of specifying specific quality parameters for an identified user. Therefore, the withdrawal of the rejection and the allowance of amended claim 1 are respectfully requested.

Claims 2, 3, and 5-8 depend from amended claim 1 and recite further limitations in combination with the novel elements of claim 1. These claims have been amended for consistency with amended claim 1. Therefore, the allowance of claims 2, 3, and 5-8 is respectfully requested.

Independent claims 11 and 18 have been amended in a manner similar to claim 1. Therefore, the allowance of claims 11 and 18 is respectfully requested for the reasons discussed above for claim 1.

Claim 12 depends from amended claim 11 and recites further limitations in combination with the novel elements of claim 11. Therefore, the allowance of claim 12 is respectfully requested.

5.) Claim Rejections – 35 U.S.C. § 103(a)

In paragraphs 7-9 of the Office Action, the Examiner rejected claims 7 and 16 under 35 U.S.C. § 103(a) as being unpatentable over McCloghrie in view of Raith, et al. (US 6,058,108). The Applicants contend that the amendments discussed above distinguish the claimed invention from McCloghrie and Raith. In particular, claim 7 adds the novel limitations to claim 1 that the data field is the differentiated services field in the IP header, the unspecified bits are utilized to carry the identified user's quality parameters, and the interconnected nodes handle the packet according to the

Attorney Docket No. P12409-US1
Customer Number 27045

unspecified bits. There is no suggestion in McCloghrie or Raith of using the unspecified bits of the DS field to carry an identified user's quality parameters to the interconnected (intermediate) nodes of the network. Therefore, the withdrawal of the rejection and the allowance of claim 7 are respectfully requested.

It is also noted that claim 16 recites that the claimed intermediate node includes processing means for performing a differentiated handling of the packets according to the differentiated services data field; means for evaluating the unspecified bits in the differentiated services data field; and means for handling the packet according to the unspecified bits. This ensures a user-specific packet handling by the intermediate nodes within the network. As noted above, the use of the unspecified bits in the DS field for this purpose is not taught or suggested by McCloghrie or Raith. Therefore, the allowance of claim 16 is respectfully requested.

In paragraph 10 of the Office Action, the Examiner rejected claims 9 and 13-15 under 35 U.S.C. § 103(a) as being unpatentable over McCloghrie in view of Mustajarvi, et al. (US 6,661,782). The Applicants contend that the amendments discussed above distinguish the claimed invention from McCloghrie and Mustajarvi. There is no teaching or suggestion in McCloghrie or Mustajarvi of specifying specific quality parameters for an identified user, as recited in amended claim 1. Claim 9 depends from amended claim 1 and recites further limitations in combination with the novel elements of claim 1. Therefore, the allowance of claim 9 is respectfully requested.

Claims 13-15 depend from amended claim 11 and recite further limitations in combination with the novel elements of claim 11. There is no teaching or suggestion in McCloghrie or Mustajarvi of specifying specific quality parameters for an identified user, as recited in amended claim 11. Therefore, the allowance of claims 13-15 is respectfully requested.

In paragraph 11 of the Office Action, the Examiner rejected claims 4, 10, and 17 under 35 U.S.C. § 103(a) as being unpatentable over McCloghrie in view of Blake, et al. (RFC 2475 "Architecture for Differentiated Services"). The Applicants contend that the amendments discussed above distinguish the claimed invention from McCloghrie and Blake. There is no teaching or suggestion in McCloghrie or Blake of specifying specific quality parameters for an identified user, as recited in amended independent claims 1

Amendment - PAGE 10 of 11
EUS/J/P/04-8903

Attorney Docket No. P12409-US1
Customer Number 27045

and 16. Claims 4 and 10 depend from amended claim 1, and claim 17 depends from amended claim 16. Claims 4, 10, and 17 add the novel limitation that the specific quality parameters are used to change the handling of the packets in the intermediate nodes only if the traffic level exceeds a threshold value. This combination of features is not taught or suggested by McCloghrie or Blake. Therefore, the allowance of claims 4, 10, and 17 is respectfully requested.

6.) New Claim

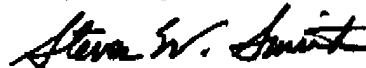
New claim 20 recites that the program unit in the edge node includes means for setting the data field so as to cause the intermediate nodes in the communication system to change the handling of the packets according to the parameters for the identified user. As noted above, this novel feature is not taught or suggested by the cited references, which address only packet handling in the edge nodes.

CONCLUSION

In view of the foregoing remarks, the Applicants believe all of the claims currently pending in the Application to be in a condition for allowance. The Applicants, therefore, respectfully request that the Examiner withdraw all rejections and issue a Notice of Allowance for claims 1-18 and 20.

The Applicants request a telephonic interview if the Examiner has any questions or requires any additional information that would further or expedite the prosecution of the Application.

Respectfully submitted,



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Amendment - PAGE 11 of 11
EUS/J/P/04-8903